



PUBLIC NOTICE

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August 17, 2007

AUCTION OF 700 MHz BAND LICENSES SCHEDULED FOR JANUARY 16, 2008

COMMENT SOUGHT ON COMPETITIVE BIDDING PROCEDURES FOR AUCTION 73

AU Docket No. 07-157

Comments Due: August 31, 2007

Reply Comments Due: September 7, 2007

Report No. AUC-07-73-A (Auction 73)

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ATTACHMENT A: Licenses to Be Auctioned

ATTACHMENT B: Activity-Based Formula to Determine Minimum Acceptable Bids

ATTACHMENT C: Determining Provisionally Winning Bids and Current Price Estimates

ATTACHMENT D: Subsequent C Block Licenses to Be Auctioned

I. INTRODUCTION AND SUMMARY

1. By this Public Notice, the Wireless Telecommunications Bureau ("Bureau") announces an auction of 1,099 licenses in the 698-806 MHz band (herein, the "700 MHz Band").¹ A complete list of licenses available is included as Attachment A of this Public Notice. This auction, which is designated as Auction 73, is scheduled to commence on January 16, 2008.

2. Pursuant to governing statutes and Commission rules, the Commission will announce final procedures for Auction 73 after considering comment provided in response to this Public Notice.² In Auction 73, the Commission will make available 176 licenses over Economic Areas (EAs) in the A Block, 734 licenses over Cellular Market Areas (CMAs)³ in the B Block, 176 licenses over EAs in the E Block, 12 licenses over Regional Economic Area Groupings (REAGs) in the C Block, and one

¹ This spectrum is part of the 698-806 MHz band, which currently is occupied by television broadcasters and is being made available for new commercial and public safety services as a result of the digital television (DTV) transition. In prior proceedings, the Commission considered the 700 MHz Band in two parts, 698-746 MHz (the "Lower 700 MHz Band") and 746-806 MHz (the "Upper 700 MHz Band"). The Lower 700 MHz Band was divided into blocks A through E, and the Upper 700 MHz Band was divided into blocks A through D. The Commission previously assigned licenses for blocks C and D in the Lower 700 MHz Band and for blocks A and B in the Upper 700 MHz Band. Consequently, the remaining blocks to be licensed are the Lower 700 MHz Band A, B, and E Blocks, and the Upper 700 MHz Band C and D Blocks. As the letters identifying the blocks remaining to be licensed in the Lower and Upper 700 MHz Bands do not overlap, we will refer to these blocks to be licensed as the A, B, E, C and D Blocks, without repeating the Lower 700 MHz Band and Upper 700 MHz Band designation.

² Based on statutory mandates that subsequently were repealed, the Commission previously announced several auctions for licenses associated with spectrum covered by licenses now offered in Auction 73. *See* Auction Reform Act of 2002, *Report to Congress*, FCC 03-138, 18 FCC Rcd 12556, 12561 (2003). The Commission cancelled or postponed those previously announced auctions. *Id.* at 12561-62. The Commission's prior public notices regarding those cancelled or postponed auctions have no continuing effect with respect to Auction 73. *See, e.g.,* "Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for June 19, 2002, Further Modification of Package Bidding Procedures and Other Procedures for Auction No. 31," *Public Notice*, DA 02-659, 17 FCC Rcd 5140 (2002) (procedures for an auction of Upper 700 MHz licenses); *see also* "Auction of Licenses for 747-762 and 777-792 MHz Bands (Auction No. 31) is Rescheduled," *Public Notice*, DA 02-1829, 17 FCC Rcd 14546 (2002) (postponing Auction 31, which already had been rescheduled for January 14, 2003, pending further notice).

³ The CMA licenses consist of both Metropolitan Statistical Area (MSA) and Rural Service Area (RSA) licenses. For the Lower 700 MHz Band, the Commission adopted MSAs and RSAs as defined by Public Notice Report No. CL-92-40 "Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties," dated January 24, 1992, DA 92-109, 7 FCC Rcd 742 (1992), with the following modifications: (i) the service areas of cellular markets that border the U.S. coastline of the Gulf of Mexico extend 12 nautical miles from the U.S. Gulf coastline; and (ii) the service area of cellular market 306 that comprises the water area of the Gulf of Mexico extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf. 47 C.F.R. § 27.6(c)(2).

nationwide license, to be used as part of the 700 MHz Public/Private Partnership, in the D Block. In this Public Notice, we propose and seek comment on detailed procedures for Auction 73, including, among other things, procedures for

- anonymous bidding, to enhance competition by safeguarding against potential anti-competitive auction strategies;
- applicants trying to combine multiple C Block licenses to place bids on packages of those licenses;
- block-specific aggregate reserve prices, to help assure that the public recovers a portion of the licenses' value; and
- offering licenses for the relevant block(s) in a prompt subsequent auction in the event auction results do not satisfy applicable reserve prices.

3. The Commission is offering the licenses in Auction 73 consistent with the requirements of the Digital Television Transition and Public Safety Act of 2005 ("DTV Act").⁴ Pursuant to the DTV Act the Commission must conduct the auction of licenses for recovered analog spectrum by commencing the bidding not later than January 28, 2008.⁵

II. BACKGROUND

4. The Commission recently released the *700 MHz Second Report and Order*, in which it revised rules governing licenses in the 700 MHz Band and, as discussed below, made certain determinations regarding the auction of 700 MHz Band licenses.⁶ Parties responding to this Public Notice

⁴ See Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006) ("DRA"). Title III of the DRA is the DTV Act. The DTV Act is codified in various portions of Title 47 of the United States Code.

⁵ 47 U.S.C. § 309(j)(15)(v).

⁶ Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, Second Report and Order, FCC 07-132, (2007) ("*700 MHz Second Report and Order*"). The *700 MHz Second Report and Order* is part of the 700 MHz band proceeding. See also, e.g., Service Rules for the 698-749, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems and Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, CC Docket No. 94-102, WT Docket No. 01-309, *Notice of Proposed Rule Making, Fourth Further Notice of Proposed Rule Making, and Second Further Notice of Proposed Rule Making*, 21 FCC Rcd 9345 (2006) ("*700 MHz Commercial Services Notice*"); Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Report and Order and Further Notice of Proposed Rulemaking*, 22 FCC Rcd 8064 (2007) ("*700 MHz Report and Order*" and "*700 MHz Further Notice*," respectively).

should be familiar with the details of the *700 MHz Second Report and Order*. We now propose and seek comment on detailed procedures to implement the Commission's determinations and generally enable the conduct of Auction 73.

5. *Anonymous Bidding*. In the *700 MHz Second Report and Order*, the Commission found that the public interest would be served if the auction for new 700 MHz Band licenses is conducted using anonymous (or "limited information") bidding procedures, regardless of any pre-auction measurement of likely auction competition. Such information procedures are intended to reduce the potential for anti-competitive bidding behavior, including bidding activity that aims to prevent the entry of new competitors. Having made this determination, the Commission directed the Bureau to propose and seek comment on more detailed procedures for employing anonymous bidding for the upcoming auction. Accordingly, in this Public Notice, we seek comment on anonymous bidding procedures for Auction 73.

6. *Package Bidding for C Block Licenses But Not for A, B, D, and E Block Licenses*. The Commission also determined in the *700 MHz Second Report and Order* that providing for package bidding for C Block licenses in Auction 73 would serve the public interest. The Commission found that package bidding for these licenses should facilitate the entry of entities seeking to create a nationwide footprint and whose business plans require the economies of scale that only can be obtained with nationwide operation. The Commission directed the Bureau to propose and seek comment on detailed procedures for implementing package bidding for the C Block licenses and not for licenses in the other blocks to be auctioned.⁷

7. *Block-Specific Aggregate Reserve Prices for Auction 73*. The Commission also decided to provide for aggregate reserve prices for licenses authorizing the use of each block of the 700 MHz Band. The Commission concluded that, consistent with its statutory mandate, disclosed reserve prices would promote the recovery of a portion of the value of the public spectrum resource. The Commission directed the Bureau to adopt aggregate reserve prices reflecting the potential market value of this spectrum based on a variety of factors including, but not limited to, the characteristics of this band and the auction prices of other recently auctioned licenses, such as licenses for Advanced Wireless Services in the 1710-1755 MHz and 2110-2155 MHz bands ("AWS-1").⁸ Accordingly, we propose to adopt the following block-specific aggregate reserve prices: Block A, \$1.807380 billion; Block B, \$1.374426 billion; Block C, \$4.637854 billion; Block D, \$1.330000 billion; Block E, \$0.903690 billion. Further, we propose that if the sum of the provisionally winning gross bids for the licenses in a block does not satisfy the relevant aggregate reserve price, none of the relevant licenses for the particular block will be assigned based on the auction results.

8. *Prompt Subsequent Auction, If Necessary, of Alternative Licenses*. The Commission, moreover, decided that if licenses initially offered for the A, B, C, or E Blocks are not assigned because the auction results do not satisfy the applicable aggregate reserve price(s) for those licenses, the Commission promptly will offer alternative licenses for those blocks. More specifically, the Commission will offer licenses for the A, B, and E Blocks subject to alternative performance requirements. With respect to the C Block, the Commission will offer alternative licenses without the open platform conditions and based on different geographic areas and spectrum bandwidth. If the D Block license is not assigned because the auction results do not satisfy the D Block reserve price, the Commission may re-offer that license subject to the same rules or reconsider the applicable rules. Consistent with the Commission's direction, we will permit only qualified bidders in the initial auction to participate in the

⁷ In the event that unforeseen difficulties make it impracticable to implement package bidding for the C Block consistent with the goals the Commission articulated in the *700 MHz Second Report and Order*, the Commission provided that the Bureau could conduct the auction without package bidding for the C Block.

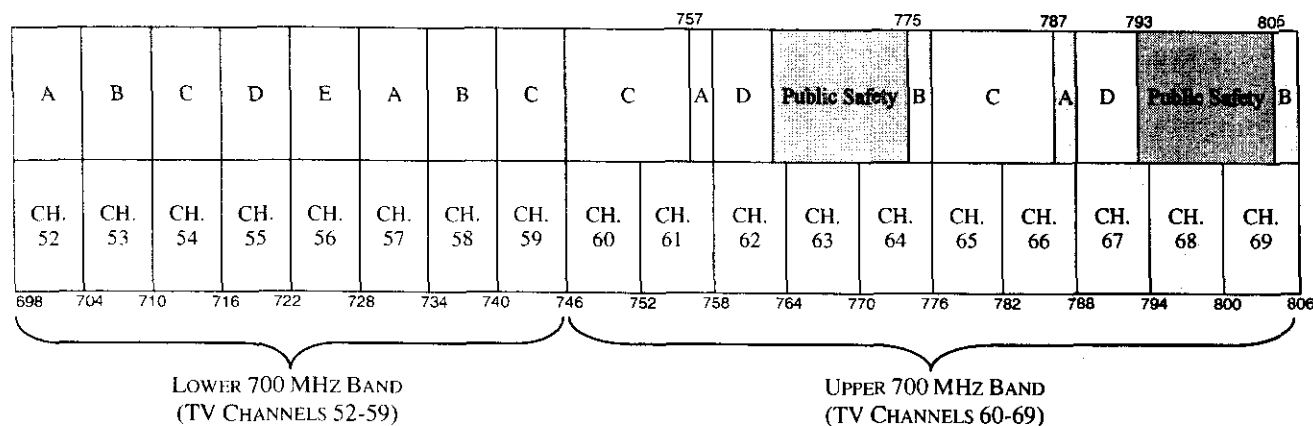
⁸ The Commission's website provides extensive information regarding the recent auction of AWS-1 licenses ("AWS-1 auction" or "Auction 66"). See <http://wireless.fcc.gov/auctions/66/>.

subsequent auction and propose to use the same auction design, including an aggregate reserve price for each block that matches the applicable initial reserve price, insofar as possible.

III. LICENSES TO BE OFFERED IN AUCTION 73

9. Auction 73 includes a total of 1,099 licenses: 176 in the A Block, 734 in the B Block, 176 in the E Block, 12 in the C Block, and 1 in the D Block. Figure 1 shows the 700 MHz band plan adopted in the recent *700 MHz Second Report and Order*:

Figure 1: 700 MHz Band



The blocks highlighted above (Lower 700 MHz Band C and D Blocks and Upper 700 MHz Band A and B Blocks) have previously been auctioned.

Block	Frequencies (MHz)	Bandwidth	Pairing	Area Type	Licenses
A	698-704, 728-734	12 MHz	2 x 6 MHz	EA	176
B	704-710, 734-740	12 MHz	2 x 6 MHz	CMA	734
E	722-728	6 MHz	unpaired	EA	176
C	746-757, 776-787	22 MHz	2 x 11 MHz	REAG	12
D	758-763, 788-793	10 MHz	2 x 5 MHz	Nationwide	1*

* Subject to conditions respecting a public/private partnership license.

10. *Predefined Packages of C Block Licenses.* As directed by the Commission's recent decision in the *700 MHz Second Report and Order*, the Bureau proposes below detailed procedures that will enable bidders to place bids on all individual licenses and on certain predefined packages of C Block licenses. More specifically, the Bureau proposes to enable bidders to place individual bids on the 12 REAG licenses and package bids on the following combinations of C Block REAG licenses: REAGs 1-8, comprising the 50 United States; REAGs 9 and 11, comprising the United States Pacific territories; and REAGs 10 and 12, comprising Puerto Rico, the U.S. Virgin Islands and the Gulf of Mexico.

11. *Incumbents.* A number of incumbent broadcasters are licensed and operating on these frequencies (TV Channels 52-53, 56-58, 60-62, and 65-67) and adjacent channels. In accordance with the Commission's rules, 700 MHz Band licensees must protect analog TV incumbents from harmful interference through February 17, 2009, the end of the DTV transition period.⁹ These limitations may restrict the ability of such geographic area licensees to use certain portions of the electromagnetic spectrum or provide service to some parts of their geographic license areas.

⁹ See 47 C.F.R. § 27.60 (co-channel and adjacent channel interference protection requirements for analog TV and DTV facilities).

12. In the *700 MHz Second Report and Order*, the Commission grandfathered an incumbent Guard Band B Block licensee in Major Economic Areas (MEAs) 21 and 39 at 761-763 MHz and 791-793 MHz of the D Block. The new D Block licensee will be authorized on a secondary basis in these markets, and it may not cause interference to the primary operations of the grandfathered licensee. If the grandfathered licensee, or a successor or assignee, cancels either of the grandfathered licenses, or if either license cancels automatically, is terminated by the Commission, or expires, then the licensed geographic area will revert to the D Block licensee automatically.

IV. BUREAU SEEKS COMMENT ON AUCTION PROCEDURES

13. Section 309(j)(3) of the Communications Act of 1934, as amended, requires the Commission to "ensure that, in the scheduling of any competitive bidding under this subsection, an adequate period is allowed . . . before issuance of bidding rules, to permit notice and comment on proposed auction procedures . . ."¹⁰ Consistent with the provisions of Section 309(j)(3) and to ensure that potential bidders have adequate time to familiarize themselves with the specific rules that will govern the day-to-day conduct of an auction, the Commission directed the Bureau, under its existing delegated authority, to seek comment on a variety of auction-specific procedures prior to the start of each auction.¹¹ The Bureau therefore seeks comment on the following issues relating to Auction 73.

A. Auction Design

1. Anonymous Bidding

14. In the *700 MHz Second Report and Order*, the Commission concluded that anonymous bidding procedures, which withhold from public release until after the auction closes any information that may indicate specific applicants' interests in the auction, including information such as their license selections and bidding activity, should be implemented in the upcoming auction of new 700 MHz Band licenses regardless of whether the auction meets a pre-auction assessment of likely competition. The Commission concluded that such procedures will serve the public interest by reducing the potential for anti-competitive bidding behavior, including bidding activity that aims to prevent the entry of new competitors.

15. In light of these conclusions, for Auction 73 the Bureau proposes to withhold, until after the close of bidding, public release of: (1) bidders' license selections on their short-form applications (FCC Form 175), (2) the amounts of bidders' upfront payments and bidding eligibility, and (3) information that may reveal the identities of bidders placing bids and taking other bidding-related actions. For example, we propose to withhold the identities of bidders placing specific bids or withdrawals and the net bid amounts, although we will disclose after the close of each round the amount of every bid placed and whether a bid amount was withdrawn. We propose to provide individual bidders with additional information about their own bids. In contrast to procedures implemented for anonymous bidding in past

¹⁰ 47 U.S.C. § 309(j)(3)(E)(i).

¹¹ See Amendment of Part 1 of the Commission's Rules — Competitive Bidding Procedures, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, *Third Report and Order and Second Further Notice of Proposed Rule Making*, FCC 97-413, 13 FCC Rcd 374, 448 ¶¶ 124-25 (1997) ("*Part 1 Third Report and Order*") (directing the Bureau to seek comment on specific mechanisms related to day-to-day auction conduct including, for example, the structure of bidding rounds and stages, establishment of minimum opening bids or reserve prices, minimum acceptable bids, initial maximum eligibility for each bidder, activity requirements for each stage of the auction, activity rule waivers, criteria for determining reductions in eligibility, information regarding bid withdrawal and bid removal, stopping rules, and information relating to auction delay, suspension or cancellation). See also 47 C.F.R. § 0.131; Amendment of Part 1 of the Commission's Rules — Competitive Bidding Proceeding, *Order, Memorandum Opinion and Order, and Notice of Proposed Rule Making*, FCC 97-60, 12 FCC Rcd 5686, 5697-98 ¶ 16 (1997) ("*Part 1 Order*").

auctions,¹² and consistent with the *700 MHz Second Report and Order*, we will withhold this information irrespective of any pre-auction measurement of likely auction competition. Accordingly, we propose to withhold the amount of bidders' upfront payments and bidding eligibility until after the close of bidding. Bidders will be able to view their own level of eligibility, before and during the auction, through the Commission's Integrated Spectrum Auction System ("ISAS" or "FCC Auction System"). Moreover, bidders will be made aware of other bidders with whom they will not be permitted to discuss bidding strategies for the purpose of complying with the Commission's anti-collusion rules.¹³ Specifically, the Bureau will notify separately each applicant with short-form applications for participation in a pending auction, including but not limited to Auction 73, whether applicants in Auction 73 have applied for licenses in any of the same geographic areas as that applicant.

16. In the event that licenses initially offered for any of the 700 MHz Band spectrum blocks are not assigned because the auction results do not satisfy the applicable reserve price and the Commission conducts a prompt subsequent auction of licenses for the relevant block(s), the Commission proposes generally to withhold the information described above on bidder license selection and eligibility and information that may reveal the identities of bidders placing bids for both auctions until after the close of bidding in the second auction. Thus, if the initial auction results satisfy aggregate reserve prices with respect to licenses in some but not all blocks, the Commission proposes, except for the D Block, to withhold information on the winning bidders for licenses in the relevant block(s) as well as information on bidder license selections and eligibility and information that may reveal the identities of bidders placing bids and taking other bidding-related actions on licenses in all blocks until after the close of bidding in both auctions. Because bidding on the 700 MHz Band licenses is interrelated, the purpose for which we impose anonymous bidding procedures in the first place – to make signaling and other anti-competitive bidding behavior less likely to be successful – will continue to be served by not making such information public until after the close of bidding on all of the licenses.¹⁴ For the D Block, however, we propose, instead of withholding all information, to make public before the close of bidding in a second auction only such information as may be necessary to proceed with promptly facilitating the D Block winner's obligations to negotiate a Network Sharing Agreement with the national Public Safety Broadband Licensee in the adjacent spectrum block,¹⁵ in the event there is a winning bidder for the D Block license in the initial auction. We seek comment on these details regarding our proposal for implementation of anonymous bidding in Auction 73, and on alternative proposals for the specific procedures to implement anonymous bidding.

2. SMR Auction with Package Bidding on C Block Licenses

17. In the *700 MHz Second Report and Order*, the Commission directed the Bureau to propose detailed auction procedures that would permit the license-by-license bidding of the FCC's standard

¹² See, e.g., "Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66," *Public Notice*, 21 FCC Rcd 4562, 4600-05 ¶¶ 140-157 (2006) ("Auction 66 Procedures Public Notice"); "Auction of Broadband PCS Spectrum Scheduled for May 16, 2007; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 71," *Public Notice*, DA 07-30, 22 FCC Rcd 433, 463-464 ¶¶ 109-113 (WTB 2007) ("Auction 71 Procedures Public Notice"); "Auction of Phase II 220 MHz Service Spectrum Scheduled for June 20, 2007; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 72," *Public Notice*, DA 07-514, 22 FCC Rcd 3404, 3433-34 ¶¶ 112-116 (WTB 2007) ("Auction 72 Procedures Public Notice").

¹³ See 47 C.F.R. § 1.2105(c).

¹⁴ Consistent with this determination, if there is a subsequent auction of alternative licenses, the anti-collusion rule, which goes into effect prior to the first auction, will remain in effect until the down-payment deadline following the second auction. See Section V. "Contingent Subsequent Auction," below.

¹⁵ See *700 MHz Second Report & Order* at ¶¶ 444-454.

simultaneous multiple round (SMR) auction format for the A, B, D, and E Block licenses, while enabling package bidding for C Block licenses.¹⁶ Accordingly, the Bureau proposes to conduct Auction 73 using an SMR auction design with hierarchical package bidding ("HPB") for the C Block licenses.¹⁷ The Bureau has developed software for an auction format ("SMR-HPB") that permits license-by-license bidding as well as limited package bidding using HPB on predetermined packages of specified licenses. Under this proposal, HPB will be available for 12 licenses in the C Block, and license-by-license bidding without package bids will be available for the 1,087 licenses in the other available blocks. In this SMR-HPB auction format, as detailed below, we propose for the C Block licenses certain procedures that differ from standard SMR procedures, while retaining the standard SMR procedures for all of the other licenses to be offered. We seek comment on the details of the proposed SMR-HPB format described below, keeping in mind the Commission's goal of facilitating the entry of a new nationwide competitor with sufficient bandwidth to offer a range of advanced wireless services, without causing undue difficulty for bidders that are not interested in a nationwide license.¹⁸

18. In the 700 MHz *Second Report and Order*, the Commission also provided that the Bureau may conduct an auction without package bidding for the C Block licenses "in the event that currently unforeseen difficulties make it impracticable to implement package bidding."¹⁹ In the event that package bidding cannot be implemented for Auction 73, the Bureau proposes to conduct the auction using standard SMR procedures for all of the licenses, including the C Block licenses as well as the A, B, D, and E Block licenses.

a. Previous Commission Package Bidding Designs

19. The Bureau's proposed SMR-HPB auction design further develops and modifies prior package bidding designs for the Commission's spectrum license auctions. Unlike previous designs that allowed bidders to create their own packages of any or all of the licenses in the auction, SMR-HPB allows a form of package bidding only on predetermined packages of specified licenses, while using SMR procedures for licenses not subject to package bidding. The Commission first proposed a simple form of package bidding in 2000, in connection with procedures for a planned auction of licenses in the Upper 700 MHz Band (Auction 31). These package bidding procedures were modified in 2002 when Auction 31 was scheduled to begin on June 19, 2002. After Auction 31 was postponed consistent with the Auction Reform Act of 2002,²⁰ the Commission further modified its package bidding design. This package bidding design was used for an auction of narrowband Personal Communication Services licenses (Auction 51) in September 2003.²¹ Following Auction 51, the Commission continued to consider alternative package bidding auction formats and developed a particular SMR auction format with package bidding ("SMR-PB"). In 2006, the Commission sought comment on whether to use SMR-PB and/or SMR for Auction 66, and decided to use its SMR auction format without package bidding for all of the

¹⁶ *Id.* at ¶¶ 290-292.

¹⁷ In the economic experiments previously conducted by the Bureau, this type of package bidding was referred to as "tiered" package bidding. See *Report on Results of Economic Experiments comparing Performance Properties of Certain Simultaneous Multiple round Spectrum License Auctions With Package Bidding*, May 25, 2007, and *Report on Results of Economic Experiments Examining Performance Properties of Simultaneous Multiple Round Spectrum License Auctions With and Without Combinatorial Bidding*, July 15, 2006, both at <http://wireless.fcc.gov/auctions/data/papersAndStudies.html>.

¹⁸ *Id.* at ¶ 292.

¹⁹ *Id.*

²⁰ Auction Reform Act of 2002, Pub. L. No. 107-195, 116 Stat. 715 (codified as 47 U.S.C. § 309(j)(15)(C)(iii)).

²¹ "Auction of Regional Narrowband PCS Licenses Scheduled for September 24, 2003, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, Package Bidding and Other Auction Procedures," *Public Notice*, DA 03-1994, 18 FCC Rcd 11974, 12008-10 (2003).

licenses in that auction.²² In 2005 and 2006 the Commission conducted experimental economic testing of the SMR-PB format.

20. The Commission has received considerable feedback on auction design from potential bidders and other members of the public, including comments submitted in the 700 MHz proceeding.²³ Also, in 2007 the Commission did further experimental economic testing on alternative package bidding designs.²⁴ Furthermore, there has been a significant amount of recent academic research and economic experiments on auction designs that incorporate package bidding in various ways.²⁵ Taking into

²² *Auction 66 Procedures Public Notice*, 21 FCC Rcd at 4612-15 ¶¶ 188-200.

²³ See, for example, United States Cellular Corporation 700 MHz Commercial Services Comments; Paul Milgrom and Karen Wrege 700 MHz Commercial Services Comments and 700 MHz Commercial Services Reply Comments; Letter from Ruth Milkman, Counsel to Access Spectrum, LLC, and Kathleen Wallman, Advisor to Pegasus Communication Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission, *Ex Parte* in WT Docket No. 06-150 (filed February 5, 2007); Letter from George Y. Wheeler, Counsel to United States Cellular Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission, *Ex Parte* in WT Docket No. 06-150 (filed March 7, 2007); AT&T Inc. 700 MHz Further Notice Comments; Coalition for 4G in America 700 MHz Further Notice Comments; Frontline Wireless, LLC 700 MHz Further Notice Comments; United States Cellular Corporation 700 MHz Further Notice Reply Comments; Verizon Wireless 700 MHz Further Notice Comments; Letter from Glenn S. Rabin, Vice President and Federal Regulatory Counsel, Alltel Corporation, to Marlene H. Dortch, Federal Communications Commission, *Ex Parte* in WT Docket No. 06-150 (filed July 9, 2007). On May 2, 2005, the Bureau sought comment on a proposed design for economic experiments to examine the performance properties of designs for conducting simultaneous multiple round auctions of spectrum licenses both with and without combinatorial bidding. "Comment Sought on Experimental Design for Examining Performance Properties of Simultaneous Multiple Round Spectrum License Auctions With and Without Combinatorial Bidding," *Public Notice*, DA 05-1267, 20 FCC Rcd 8685 ("Combinatorial Bidding Comment Public Notice"). In response to the *Combinatorial Bidding Comment Public Notice*, the Bureau received the following filings: Comments of Lawrence M. Ausubel, Peter Cramton, and Paul Milgrom (dated June 1, 2005); Comments of Leap Wireless International, Inc. (dated June 1, 2005); Comments of PA Consulting Group (dated June 1, 2005); Comments of Telephone and Data Systems, Inc. and United States Cellular Corporation (dated June 1, 2005); Comments of Verizon Wireless (dated June 1, 2005); *Ex Parte* Letter from Robert J. Weber, on behalf of Telephone and Data Systems, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission (filed May 12, 2005). Filings made in response to the *Combinatorial Bidding Public Notice* are available at <http://wireless.fcc.gov/auctions/data/papersAndStudies.html>.

²⁴ See *Report on Results of Economic Experiments comparing Performance Properties of Certain Simultaneous Multiple round Spectrum License Auctions With Package Bidding*, May 25, 2007, and *Report on Results of Economic Experiments Examining Performance Properties of Simultaneous Multiple Round Spectrum License Auctions With and Without Combinatorial Bidding*, July 15, 2006, both at <http://wireless.fcc.gov/auctions/data/papersAndStudies.html>.

²⁵ Such work includes, but is not limited to, the following: Goeree, J. K. and C. A. Holt, "A Simple Combinatorial Auction," Working Paper, May 2007 (addressing pricing in a hierarchically-tiered package bidding format); Rothkopf, M. H., A. Pekeč, and R. M. Harstad, "Computationally Manageable Combinatorial Auctions," *Management Sciences*, 44(8), August 1998, 1131-1147 (addressing a hierarchically-tiered package bidding format); Ausubel, L. M., P. Cramton, and P. Milgrom, "The Clock-Proxy Auction: A Practical Combinatorial Auction Design," in *Combinatorial Auctions*, eds. P. Cramton, Y. Shoham, and R. Steinberg, MIT Press, 2006, p. 115-138; Ausubel, L. M. and P. Milgrom, "Ascending Auctions with Package Bidding," *Frontiers of Theoretical Economics*, 1(1), 2002; Brunner, C., J. K. Goeree, C. A. Holt, and J. O. Ledyard, "Combinatorial Auctioneering," Working Paper, July 26, 2006; Cantillon, E. and M. Pesendorfer, "Combination Bidding in Multi-Unit Auctions," Working Paper, November, 2006; Klemperer, P., *Auctions: Theory and Practice*, Princeton University Press, 2004; Kwasnica, A. M., J. O. Ledyard, D. Porter, and C. DeMartini, "A New and Improved Design for Multi-Object Iterative Auctions," *Management Science*, 51(3), March 2005, 419-434; Milgrom, P., *Putting Auction Theory to Work*, Cambridge University Press, 2004; Porter, D., S. Rassenti, A. Roopnarine, and V. Smith, "Combinatorial Auction Design," *Proceedings of the National Academy of Sciences*, 100(19), September 2003, 11153-11157.

consideration Commission experience and input from the public, the Commission now seeks comment on using the following SMR-HPB format for Auction 73.

b. SMR-HPB Auction Format

21. As in the Commission's non-package bidding SMR auctions, the proposed SMR-HPB auction format offers all licenses for sale simultaneously, with bid amounts generally ascending over a series of bidding rounds. SMR-HPB allows bids on all individual licenses and on certain predefined packages of specified licenses. In Auction 73, not all licenses will be included in packages: the Commission will offer package bidding only on the C Block licenses. Bidding on licenses in other blocks will be on a license-by-license basis only, as in SMR. A bidder may bid on, and potentially win, any number of licenses and/or packages. Typically, bidding remains open on all licenses until bidding stops on every license, based on the applicable stopping rule.

22. With respect to licenses offered subject to HPB, bidders may not create their own packages. The predefined packages are determined by the Commission according to a hierarchical structure. The initial level consists of individual licenses, and the next level consists of non-overlapping packages of those licenses, such that a given license is included only once in each level. The winning set of bids may consist of bids from various levels, as long as each license is included in only one winning bid.

23. For Auction 73, the Bureau proposes to accept individual bids on C Block licenses for REAGs 1-12 (Level 1) and package bids on certain combinations of C Block REAG licenses (Level 2). Thus, the initial level will be the twelve individual REAG licenses, and the second level will consist of packages of REAGs 1-8 (the 50 United States), REAGs 10 and 12 (Puerto Rico, the U.S. Virgin Islands and the Gulf of Mexico, or "Atlantic"), and REAGs 9 and 11 (the U.S. Pacific territories, or "Pacific"). We propose a package of REAGs covering the 50 states consistent with the Commission's determination that we should implement a package bidding auction design to facilitate the entry of a new nationwide competitor in the C Block.²⁶ We seek comment on this proposal, including comments suggesting alternative levels or alternative ways of packaging licenses within levels.

Figure 2: Proposed Package Structure of C Block Licenses

Level 2: Packages	50 States								Atlantic		Pacific	
Level 1: REAG licenses	1	2	3	4	5	6	7	8	10	12	9	11

24. After each round, the FCC determines the combination of package and/or single license bids that yields the highest gross amount, and those bids become provisionally winning.²⁷ For licenses that are not subject to package bidding, the FCC Auction System will consider the bids placed in the round and the provisionally winning bids from the previous round; the highest bid on each license will become that round's provisionally winning bid.²⁸ For licenses subject to package bidding, when determining provisionally winning bids, the FCC Auction System will consider each bidder's highest bid on each license or package placed up to that point in the auction, regardless of whether the bids were provisionally winning after the rounds in which they were placed. Considering these bids from previous rounds makes it possible for new bids on individual licenses to combine with other bids in order to compete with bids on

²⁶ See 700 MHz Second Report and Order at ¶292.

²⁷ Tied bids, or ties among sets of bids, will be broken randomly. See below, Section IV.C.6.

²⁸ The Bureau proposes to provide bidders with limited ability to withdraw provisionally winning bids for licenses not subject to package bidding (non-C Block licenses). See below, Section IV.C.8.

packages.²⁹ The provisionally winning bids are determined by comparing aggregate gross bid amounts, at each level, for various combinations of package and individual license bids.³⁰

B. Auction Structure

1. Round Structure

25. Auction 73 will consist of sequential bidding rounds. The initial bidding schedule will be announced in a public notice to be released at least one week before the start of the auction.

26. The Commission will conduct Auction 73 over the Internet, and telephonic bidding will be available as well. The toll-free telephone number for the Auction Bidder Line will be provided to qualified bidders.

27. The Bureau proposes to retain the discretion to change the bidding schedule in order to foster an auction pace that reasonably balances speed with the bidders' need to study round results and adjust their bidding strategies. Under this proposal, the Bureau may change the amount of time for bidding rounds, the amount of time between rounds, or the number of rounds per day, depending upon bidding activity and other factors. The Bureau seeks comment on this proposal. Commenters may wish to address the role of the bidding schedule in managing the pace of the auction and the tradeoffs in managing auction pace by bidding schedule changes, by changing the activity requirements or bid amount parameters, or by using other means.

2. Stopping Rule

28. The Bureau has discretion "to establish stopping rules before or during multiple round auctions in order to terminate the auction within a reasonable time."³¹ For Auction 73, the Bureau proposes to employ a simultaneous stopping rule approach. A simultaneous stopping rule means that all licenses remain available for bidding until bidding closes simultaneously on all licenses. More specifically, bidding will close simultaneously on all licenses and packages after the first round in which no bidder submits any new bids, applies a proactive waiver, or withdraws any provisionally winning bids.³² Thus, unless the Bureau announces alternative stopping procedures, bidding will remain open on all licenses until bidding stops on every license, regardless of whether bids are placed on individual licenses or packages of licenses. Consequently, it is not possible to determine in advance how long the auction will last.

²⁹ This set of considered bids for licenses and packages in the C Block will likely include many bids with very little likelihood of ever becoming provisionally winning. Bidders will be able to assess the chances that a considered bid from a previous round will become provisionally winning in a later round by comparing it to the considered bids and to prevailing price levels. As discussed in more detail below, for licenses subject to package bidding, we propose to give bidders some limited ability to "drop" non-provisionally winning bids in order to prevent a bid they no longer want from becoming provisionally winning in a later round. See Section IV.C.8.

³⁰ Packages do not overlap within a level. That is, a license cannot be included in more than one package in a given level. Consequently, comparing aggregate gross bid amounts at each level does not require combinatorial optimization. See Attachment C for a more detailed discussion. See also Rothkopf, M. H., A. Pekeč, and R. M. Harstad, "Computationally Manageable Combinatorial Auctions," *Management Sciences*, 44(8), August 1998, 1131-1147. A more complex combinatorial optimization process to determine provisionally winning bids is required in some other package bidding designs, including SMR-PB, the design of which the FCC sought comment on for Auction 66.

³¹ 47 C.F.R. § 1.2104(e).

³² Proactive waivers are described in Section IV.C.3. "Activity Rule Waivers and Reducing Eligibility," provisionally winning bids are defined in Section IV.C.6. "Provisionally Winning Bids," and bid withdrawals are described in Section IV.C.8. "Bid Withdrawal and Dropped Bids," below. Dropped bids, described in Section IV.C.8., do not keep the auction open.

29. Further, the Bureau proposes to retain the discretion to exercise any of the following options during Auction 73:

- a) Use a modified version of the simultaneous stopping rule. The modified stopping rule would close the auction for all licenses after the first round in which no bidder applies a waiver, withdraws a provisionally winning bid, or places any new bids on any license or package for which it is not the provisionally winning bidder. Thus, absent any other bidding activity, a bidder placing a new bid on a license or a package of licenses for which it is the provisionally winning bidder would not keep the auction open under this modified stopping rule. When commenting on this proposal, commenters should address whether this modified stopping rule should apply across licenses and packages of those licenses. For example, should the auction close if the only bid placed is a new bid on a license that is part of a package upon which that same bidder holds the provisionally winning bid? Commenters should also address whether this modified stopping rule should apply only after applicable reserve prices have been met.
- b) Declare that the auction will end after a specified number of additional rounds ("special stopping rule"). If the Bureau invokes this special stopping rule, it will accept bids in the specified final round(s) after which the auction will close.
- c) Keep the auction open even if no bidder places any new bids, applies a waiver, or withdraws any provisionally winning bids. In this event, the effect will be the same as if a bidder had applied a waiver. The activity rule, therefore, will apply as usual, and a bidder with insufficient activity will either lose bidding eligibility or use a waiver.

30. The Bureau proposes to exercise these options only in certain circumstances, for example, where the auction is proceeding unusually slowly or quickly, there is minimal overall bidding activity, or it appears likely that the auction will not close within a reasonable period of time or will close prematurely, e.g., before bidders have had an adequate opportunity to satisfy any applicable reserve prices. Before exercising certain of these options, the Bureau is likely to attempt to change the pace of the auction by, for example, changing the number of bidding rounds per day and/or changing minimum acceptable bids. The Bureau proposes to retain the discretion to exercise any of these options with or without prior announcement during the auction. The Bureau seeks comment on these proposals.

3. Information Relating to Auction Delay, Suspension, or Cancellation

31. For Auction 73, the Bureau proposes that, by public notice or by announcement during the auction, the Bureau may delay, suspend, or cancel the auction in the event of natural disaster, technical obstacle, administrative or weather necessity, evidence of an auction security breach or unlawful bidding activity, or for any other reason that affects the fair and efficient conduct of competitive bidding.³³ In such cases, the Bureau, in its sole discretion, may elect to resume the auction starting from the beginning of the current round, resume the auction starting from some previous round, or cancel the auction in its entirety. Network interruption may cause the Bureau to delay or suspend the auction. The Bureau emphasizes that exercise of this authority is solely within the discretion of the Bureau, and its use is not intended to be a substitute for situations in which bidders may wish to apply their activity rule waivers. The Bureau seeks comment on this proposal.

³³ 47 C.F.R. § 1.2104(i).

C. Bidding Procedures

1. Upfront Payments and Bidding Eligibility

32. The Bureau has delegated authority and discretion to determine an appropriate upfront payment for each license being auctioned.³⁴ A bidder's upfront payment is a refundable deposit to establish eligibility to bid on licenses. Upfront payments related to the licenses for specific spectrum subject to auction protect against frivolous or insincere bidding and provide the Commission with a source of funds from which to collect payments owed at the close of the auction.³⁵ With these guidelines in mind, the Bureau proposes to calculate upfront payments on a license-by-license basis using a method that considers the likely relative demand for the licenses, taking into account, among other factors, the population within the license area, the bandwidth covered by the license, whether the license includes rural areas, and whether a license for the exact same area was unsold in Auction 66.³⁶ Specifically, the Bureau proposes to calculate upfront payments as follows:³⁷

- For licenses covering CMAs in the 50 states in which the licenses offered in Auction 66 were sold, \$0.05 per MHz per population (MHz-pop) for Metropolitan Statistical Area (MSA) licenses and \$0.03/MHz-pop for Rural Service Area (RSA) licenses
- For licenses covering EAs in the 50 states in which the corresponding licenses in both EA blocks offered in Auction 66 were sold, the sum of \$0.05/MHz-pop for counties contained within an MSA and \$0.03/MHz-pop for counties contained within an RSA
- For licenses covering REAGs in the 50 states in which the corresponding licenses in all three REAG blocks offered in Auction 66 were sold, the sum of \$0.05/MHz-pop for counties contained within an MSA and \$0.03/MHz-pop for counties contained within an RSA
- For licenses covering geographic areas for which an Auction 66 license was unsold, \$0.01/MHz-pop
- For licenses covering the Gulf of Mexico, \$1,000 per MHz
- For all remaining licenses, \$0.01/MHz-pop

For all licenses, the results of the above calculations are subject to a minimum of \$500 per license and are rounded using our standard rounding procedure.³⁸ The proposed number of bidding units for each license

³⁴ See *Part 1 Order*, 12 FCC Rcd at 5697-98 ¶ 16. See also *Part 1 Third Report and Order*, 13 FCC Rcd at 425 ¶ 86; Implementation of Section 309(j) of the Communications Act—Competitive Bidding, *Second Report and Order*, FCC 94-61, 9 FCC Rcd 2348, 2378-79 ¶¶ 171-75 (1994) (“*Competitive Bidding Second Report and Order*”).

³⁵ See *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2378-79 ¶¶ 171-76.

³⁶ For a CMA license in Auction 73, the proposed upfront payment considers whether the Auction 66 A Block license for the same CMA was sold; for an EA license, whether either of the two Auction 66 licenses (B and C Blocks) for the same EA were unsold; and for an REAG license, whether any of the three Auction 66 licenses (D, E and F Blocks) for the same REAG were unsold. This approach does not consider Auction 66 results for other licenses that overlap or encompass a particular geographic area. That is, the Auction 66 results for EA and REAG licenses are not considered for Auction 73 CMA licenses, the Auction 66 results for CMA and REAG licenses are not considered for Auction 73 EA licenses, and the Auction 66 results for CMA and EA licenses are not considered for Auction 73 REAG licenses.

³⁷ All population figures are from the 2000 U.S. Census, U.S. Department of Commerce, Bureau of the Census. See Census 2000 Summary File 1 (SF1) and July 3, 2001, news releases covering the U.S. Virgin Islands, Guam, the Northern Mariana Islands, and American Samoa.

³⁸ Results above \$10,000 are rounded to the nearest \$1,000; results below \$10,000 but above \$1,000 are rounded to the nearest \$100; and results below \$1,000 are rounded to the nearest \$10.

and associated upfront payment amounts are listed in Attachment A.³⁹ The Bureau seeks comment on this proposal.

33. The Bureau further proposes that the amount of the upfront payment submitted by a bidder will determine the bidder's initial bidding eligibility in bidding units. The Bureau proposes that each license be assigned a specific number of bidding units equal to the upfront payment listed in Attachment A, on a bidding unit per dollar basis.⁴⁰ For a package, we propose to calculate the bidding units by adding together the bidding units of the individual licenses that make up the package. The number of bidding units for a given license is fixed and does not change during the auction as prices change. A bidder's upfront payment is not attributed to specific licenses or packages. Rather, a bidder may place bids on any of the licenses it selected on its application to participate in the auction as long as the total number of bidding units associated with those licenses does not exceed its current eligibility. Eligibility cannot be increased during the auction; it can only remain the same or decrease.

34. In the proposed SMR-HPB auction format, a bidder may place bids on any combination of licenses and packages of licenses as long as the total number of bidding units associated with the licenses does not exceed the bidder's current eligibility. Therefore, applicants interested in bidding only on individual licenses should determine the total number of bidding units associated with licenses they wish to bid on or have included in provisionally winning bids⁴¹ in any single round, and submit an upfront payment amount covering that total number of bidding units. Applicants interested in bidding on packages should determine their upfront payment by calculating the sum of bidding units associated with each discrete license they wish to include in new bids (package or individual bids) or have included in provisionally winning bids in any single round. The bidding units associated with a given license, even if the license is included in more than one bid, will be counted only once per bidder per round. Hence, if a bidder has enough eligibility to bid on certain licenses, it can place bids on the licenses individually *and* on packages containing the licenses without needing additional eligibility. For example, if licenses A, B, and C each have 10,000 bidding units, and a bidder wishes in a single round to be able to bid on licenses A, B, and C individually and on packages AB and ABC, the bidder needs 30,000 bidding units of eligibility.

2. Activity Rule

35. In order to ensure that the auction closes within a reasonable period of time, an activity rule requires bidders to bid actively throughout the auction, rather than wait until late in the auction before participating.

36. In the proposed SMR-HPB format, as well as in an SMR format, bidders are required to be active on a specific percentage of their current bidding eligibility during each round of the auction. Failure to maintain the requisite activity level will result in the use of an activity rule waiver, if any remain, or a reduction in the bidder's eligibility, possibly curtailing or eliminating the bidder's ability to place additional bids in the auction.⁴²

³⁹ The upfront payment for any of the pre-defined packages of C Block licenses will be the sum of the upfront payments of the licenses included in the specific package.

⁴⁰ "Former defaulters" — *i.e.*, applicants, including any of their affiliates, any of their controlling interests, or any of the affiliates of their controlling interests, that in the past have defaulted on any Commission licenses or been delinquent on any non-tax debt owed to any Federal agency, but that have since remedied all such defaults and cured all of their outstanding non-tax delinquencies — are required to pay upfront payments that are fifty percent more than the normal upfront payment amounts. 47 C.F.R. § 1.2106(a).

⁴¹ See Section IV.C.6. "Provisionally Winning Bids," below.

⁴² See Section IV.C.3. "Activity Rule Waivers and Reducing Eligibility," below.

37. The Bureau proposes to divide the auction into at least two stages, each characterized by a different activity requirement. The auction will start in Stage One. The Bureau proposes to advance the auction to the next stage by announcement during the auction. In exercising this discretion, the Bureau will consider a variety of measures of auction activity, including but not limited to the percentage of licenses (as measured in bidding units) on which there are new bids,⁴³ the number of new bids, and the increase in revenue. The Bureau seeks comment on these proposals.

38. Commenters that believe these activity rules should be modified should explain their reasoning and comment on the desirability of an alternative approach. Commenters are advised to support their claims with analyses and suggested alternative activity rules. Additionally, commenters may wish to address the role of activity rules in managing the pace of the auction and the tradeoffs in managing auction pace by bidding schedule changes, by changing the activity requirements or bid amount parameters, or by using other means.

39. In SMR and SMR-HPB, a bidder's activity in a round will be the sum of the bidding units associated with any licenses covered by new and provisionally winning bids.⁴⁴ In SMR-HPB, the bidding units associated with a given license will be counted only once in a bidder's activity calculation for the round, even if the bidder places multiple bids including the license. For example, consider two licenses, A and B, each having 10,000 bidding units. Assuming a bidder bids on license A as well as the package AB in a given round, the bidder's activity would be 20,000 bidding units, calculated as the sum of the bidding units of licenses A and B. Note that the bidding units for license A are not counted twice.

40. The Bureau proposes the following activity requirements, while noting again that the Bureau retains the discretion to change stages unilaterally by announcement during the auction:

Stage One: In each round of the first stage of the auction, a bidder desiring to maintain its current bidding eligibility is required to be active on licenses representing at least 80 percent of its current bidding eligibility. Failure to maintain the required activity level will result in the use of an activity rule waiver or a reduction in the bidder's bidding eligibility for the next round of bidding. During Stage One, a bidder's reduced eligibility for the next round will be calculated by multiplying the bidder's current round activity by five-fourths ($5/4$).

Stage Two: In each round of the second stage, a bidder desiring to maintain its current bidding eligibility is required to be active on 95 percent of its current bidding eligibility. Failure to maintain the required activity level will result in the use of an activity rule waiver or a reduction in the bidder's bidding eligibility for the next round of bidding. During Stage Two, a bidder's reduced eligibility for the next round will be calculated by multiplying the bidder's current round activity by twenty-nineteenths ($20/19$).

41. The Bureau retains the discretion to change the activity requirements during the auction. For example, the Bureau could decide to add an additional stage with a higher activity requirement, not to transition to Stage Two if it believes the auction is progressing satisfactorily under the Stage One activity requirement, or to transition to Stage Two with an activity requirement that is higher or lower than the 95

⁴³ For example, when monitoring activity for determining when to change stages, the Bureau may consider the percentage of bidding units of the licenses receiving new provisionally winning bids, excluding any FCC-held licenses. In past auctions, the Bureau has generally changed stages when this measure was approximately twenty percent or below for three consecutive rounds of bidding.

⁴⁴ In a standard SMR auction without package bidding, the activity calculation is described as the sum of the bidding units for licenses on which the bidder places new bids or holds provisionally winning bids. For bidders placing bids only on individual licenses, the calculation as stated above is equivalent to the standard SMR calculation.

percent proposed herein.⁴⁵ If the Bureau exercises this discretion, it will alert bidders by announcement in the FCC Auction System.

3. Activity Rule Waivers and Reducing Eligibility

42. Use of an activity rule waiver preserves the bidder's eligibility despite the bidder's activity in the current round being below the required minimum level. An activity rule waiver applies to an entire round of bidding, not to particular licenses. Activity rule waivers can be either proactive or automatic and are principally a mechanism for bidders to avoid the loss of bidding eligibility in the event that exigent circumstances prevent them from bidding in a particular round.

43. The FCC Auction System assumes that a bidder not meeting the activity requirement would prefer to apply an activity rule waiver (if available) rather than lose bidding eligibility. Therefore, the system will automatically apply a waiver at the end of any bidding round in which a bidder's activity level is below the minimum required unless (1) the bidder has no activity rule waivers remaining; or (2) the bidder overrides the automatic application of a waiver by reducing eligibility, thereby meeting the activity requirement. If a bidder has no waivers remaining and does not satisfy the required activity level, its eligibility will be permanently reduced, possibly curtailing or eliminating the bidder's ability to place additional bids in the auction.

44. A bidder with insufficient activity may wish to reduce its bidding eligibility rather than use an activity rule waiver. If so, the bidder must affirmatively override the automatic waiver mechanism during the bidding round by using the "reduce eligibility" function in the FCC Auction System. In this case, the bidder's eligibility is permanently reduced to bring the bidder into compliance with the activity rule as described above. Reducing eligibility is an irreversible action. Once eligibility has been reduced, a bidder will not be permitted to regain its lost bidding eligibility, even if the round has not yet closed.

45. Under the proposed simultaneous stopping rule, a bidder may apply an activity rule waiver proactively as a means to keep the auction open without placing a bid. If a bidder proactively applies an activity rule waiver (using the "apply waiver" function in the FCC Auction System) during a bidding round in which no bids are placed or withdrawn, the auction will remain open and the bidder's eligibility will be preserved. An automatic waiver applied by the FCC Auction System in a round in which there are no new bids, withdrawals, or proactive waivers will not keep the auction open. A bidder cannot apply a proactive waiver after bidding in a round, and applying a proactive waiver will preclude a bidder from placing any bids in that round.⁴⁶ Applying a waiver is irreversible; once a proactive waiver is submitted, that waiver cannot be unsubmitted, even if the round has not yet closed.

46. Consistent with recent auctions of commercial wireless spectrum, the Bureau proposes that each bidder in Auction 73 be provided with three activity rule waivers that may be used as set forth above at the bidder's discretion during the course of the auction. The Bureau seeks comment on this proposal.

4. Reserve Prices or Minimum Opening Bids

a. Reserve Prices

47. In the *700 MHz Second Report and Order*, the Commission concluded that establishing separate aggregate reserve prices for all the licenses in each block of the 700 MHz Band spectrum to be offered in Auction 73 will serve the public interest. More specifically, the Commission directed the

⁴⁵ If the Bureau implements stages with activity requirements other than the ones listed above, a bidder's reduced eligibility for the next round will be calculated by multiplying the bidder's current round activity by the reciprocal of the activity requirement. For example, with a 98 percent activity requirement, the bidder's current round activity would be multiplied by 50/49; with a 100 percent activity requirement, the bidder's current round activity would become its bidding eligibility (current round activity would be multiplied by 1/1).

⁴⁶ In general, once a bidder places a proactive waiver during a round, the FCC Auction System does not allow the bidder to take any other bidding-related action, including placing, withdrawing, or dropping bids later in that round.

Bureau to adopt and publicly disclose block-specific aggregate reserve prices, pursuant to its existing delegated authority and the regular pre-auction process and consistent with the Commission's conclusions in the *700 MHz Second Report and Order*. We propose that the sum of the provisionally winning gross bids for all licenses in each block must equal or exceed the disclosed aggregate reserve price for the block before the Commission will assign licenses in that block.⁴⁷ For reasons discussed below, we propose to adopt the following block-specific aggregate reserve prices to be used pursuant to this proposal: Block A, \$1.807380 billion; Block B, \$1.374426 billion; Block C, \$4.637854 billion; Block D, \$1.330000 billion; Block E, \$0.903690 billion. We seek comment on all aspects of this proposal, as well as comment on other proposals for implementing the Commission's direction in the *700 MHz Second Report and Order*.

48. *Background.* Section 309(j) calls upon the Commission to prescribe methods for establishing a reasonable reserve price or a minimum opening bid amount when FCC licenses are subject to auction, unless the Commission determines that a reserve price or minimum opening bid amount is not in the public interest.⁴⁸ Consistent with this mandate, the Commission has directed the Bureau to seek comment on the use of a minimum opening bid amount and/or reserve price prior to the start of each auction.⁴⁹ If a reserve price is adopted, it may be disclosed or undisclosed.⁵⁰

49. The Commission is statutorily obliged to consider and balance a variety of public interests and objectives when establishing service rules and licensing procedures with respect to the public spectrum resource. These objectives include promoting recovery for the public a portion of the value of that resource.⁵¹ In the *700 MHz Second Report and Order*, the Commission adopted innovative provisions with respect to licenses in each separate block of the 700 MHz Band, including provisions establishing a public/private partnership with respect to the D Block license, open platform requirements for licenses in the C Block, and geographic performance requirements with respect to licenses in the A, B, and E Blocks. To address the possibility that various factors, including but not limited to the innovative service rules adopted for 700 MHz Band licenses, might impact the recovery of a portion of the value of the public spectrum resource, the Commission concluded that the public interest requires that the auction of the licenses be subject to certain reserve prices.

50. The Commission further recognized that, given the array of different conditions imposed on the licenses for different blocks, bidders may place sufficient value on licenses in a particular block to satisfy a reserve applicable to that block even though interest in licenses in another block may be too low to satisfy the latter block's aggregate reserve. The Commission therefore concluded that block-specific aggregate reserve prices should be used and directed the Bureau to adopt auction procedures that will enable licensing of specific blocks provided that the auction results satisfy the block-specific reserve prices. In this regard, the Commission expressly noted that under procedures typical of Commission auctions, a bidder would be able to raise its own provisionally winning bid(s) to attempt to satisfy the reserve price for licenses in any spectrum block.⁵²

⁴⁷ If the auction results satisfy a block-specific aggregate reserve, licenses in that block will be assigned based on the auction results, subject to completion of the licensing process, including review of applicants' qualifications. If not, the Commission has provided for a prompt auction of alternative, less restrictive licenses for the A, B, C, and E Blocks, and the possibility of a prompt re-auction of the license for the D Block, subject to the same applicable block-specific reserves. We propose and seek comment on procedures for any such subsequent auction in Section V, below.

⁴⁸ 47 U.S.C. § 309(j)(4)(F). See also 47 C.F.R. § 1.2104(c) and (d).

⁴⁹ *Part 1 Third Report and Order*, 13 FCC Rcd at 455-56 ¶ 141.

⁵⁰ See 47 C.F.R. § 1.2104(c). See also *Part 1 Third Report and Order*, 13 FCC Rcd at 455 ¶ 140.

⁵¹ 47 U.S.C. § 309(j)(3)(C).

⁵² See Section IV.B.2. "Stopping Rule," above.

51. The Commission concluded that, in order to recover an appropriate portion of the value of the public spectrum resource, the block-specific aggregate prices should reflect current assessments of the potential market value of licenses for the 700 MHz Band. The Commission directed that this assessment be based on various factors including, but not limited to, the characteristics of this band and the value of other recently auctioned licenses, such as licenses for Advanced Wireless Services. The Commission reasoned that using AWS-1 auction results might be an appropriate guide for setting block-specific reserve prices reflecting a conservative estimate of final market value. For instance, spectrum in the 700 MHz Band possesses superior propagation characteristics to AWS-1 spectrum. In addition, as of February 18, 2009, the 700 MHz Band spectrum will be unencumbered, while full access to AWS-1 spectrum requires the relocation of both Government and commercial incumbent users. Thus, other factors aside, 700 MHz Band licenses with comparable geographic service areas and bandwidth should have a higher market value than AWS-1 licenses.

52. The Commission expressly noted that the detailed rules regarding the D Block license, the D Block licensee's required construction of a network to be shared by public safety service users, and the resulting limitations on the flexibility of the D Block licensee, should be given weight in assessing the D Block's potential market value. Based solely on geographic area and spectrum block size, AWS-1 auction results might suggest a D Block reserve price of \$1.7 billion. However, in light of the D Block license conditions essential to the public safety purpose of the public/private partnership, it might be appropriate to expect bidders to bid only about 75 percent to 80 percent of such an amount, or about \$1.33 billion. In addition, when determining relative valuation of other blocks, the Bureau should consider the relative valuation of differing blocks in the recent auction of AWS-1 licenses.

53. *Discussion.* The Commission directed the Bureau to establish block-specific reserve prices by taking into account a conservative estimate of market value based on auction results for AWS-1 spectrum licenses, as noted above and in the *700 MHz Second Report and Order*, as well as various factors including, but not limited to, the characteristics of this band. Using AWS-1 auction results as a guide, the sum of block-specific reserves would amount to about \$10.4 billion. The Commission also provided specific guidance in setting the reserve applicable to the D Block license, suggesting that an amount of approximately \$1.33 billion would be appropriate. Consistent with the guidance of the Commission, we propose the following block-specific aggregate reserve prices for Auction 73: Block A, \$1.807380 billion; Block B, \$1.374426 billion; Block C, \$4.637854 billion; Block D, \$1.330000 billion; Block E, \$0.903690 billion. Together, these block-specific aggregate reserves sum to \$10.053350 billion.⁵³

54. As the Commission has already noted and as discussed above, the D Block reserve price of \$1.33 billion is discounted from an amount based more closely on AWS-1 bids because of the unique service rules and related obligations imposed upon the D Block licensee. For the A, B, C, and E Blocks, we base the reserve prices on the respective market value estimates using AWS-1 bids, adding one percent, and rounding to the nearest thousand dollars. Because of the value-enhancing propagation characteristics and relatively unencumbered nature of the 700 MHz Band spectrum, we believe these are

⁵³ The Commission's suggested \$10.4 billion aggregate market value estimate for the 700 MHz licenses was derived as the sum of block-specific estimates of the market value of 700 MHz licenses, based on AWS-1 winning bids. Each block-specific estimate was based on bid amounts for comparable AWS-1 spectrum blocks, taking geographic area type and bandwidth into account, and further adjusting for the specific bandwidth in the 700 MHz blocks. See *700 MHz Second Report and Order*, at n.700. The block-specific reserves we propose here accept the amounts suggested by the Commission in the *700 MHz Second Report and Order* as a base, with the \$10.4 billion aggregate market value estimate adjusted for the specific amount of \$1.33 billion for the D Block.

conservative estimates.⁵⁴ We seek comment on these proposed reserve prices and specifically on whether any or all of them should be higher or lower than proposed here.

55. We propose to consider gross bid amounts rather than net bid amounts in determining whether the block-specific reserve prices have been met. Anonymous bidding procedures, which we propose to apply in Auction 73 at Commission direction, preclude disclosing net bid amounts until after the close of bidding. Therefore, were the block-specific reserve prices to be set in net rather than gross terms, during the auction bidders and the public would be less able to monitor whether provisionally winning bids had met the applicable reserve prices.

b. Minimum Opening Bids

56. In contrast to a reserve price, a minimum opening bid is the minimum bid price set at the beginning of the auction below which no bids will be accepted. It is generally used to accelerate the competitive bidding process. Also, the auctioneer often has the discretion to lower the minimum opening bid amount later in the auction. It is also possible for the minimum opening bid and the reserve price to be the same amount.

⁵⁴ The estimated market values based on Auction 66 (AWS-1) bids and the calculation of the reserve prices we propose are described in the tables below.

Estimated 700 MHz Band Market Value Based on AWS-1 Bids

700 MHz Block	700 MHz Bandwidth (MHz)	Geographic Area Type	Comparable AWS-1 Block	AWS-1 Bandwidth (MHz)	Bandwidth Ratio 700/AWS-1	AWS-1 Bids	Estimated Market Value
A	12	EA	C	10	1.2	\$1,491,238,000	\$1,789,485,600
B	12	CMA	A	20	0.6	\$2,268,029,200	\$1,360,817,520
E	6	EA	C	10	0.6	\$1,491,238,000	\$894,742,800
C	22	REAG	F	20	1.1	\$4,174,486,000	\$4,591,934,600
D	10	Nationwide*	D and E	10	1.0	\$1,749,031,000	\$1,749,031,000
Total	62						\$10,386,011,520

* Since AWS-1 did not have any nationwide licenses, "Estimated Market Value Based on AWS-1 Bids" is based on Auction 66 bids for 10 MHz REAG licenses.

The "Estimated Market Value Based on AWS-1 Bids" is calculated as the "Bandwidth Ratio 700/AWS-1" multiplied by "AWS-1 Bids."

Proposed 700 MHz Band Reserve Prices

700 MHz Block	Estimated Market Value Based on AWS-1 Bids	Commission Guidance on D Block Reserve Price	Proposed 700 MHz Band Reserve Prices
A	\$1,789,485,600		\$1,807,380,000
B	\$1,360,817,520		\$1,374,426,000
E	\$894,742,800		\$903,690,000
C	\$4,591,934,600		\$4,637,854,000
D	\$1,749,031,000	\$1,330,000,000	\$1,330,000,000
Total	\$10,386,011,520		\$10,053,350,000

The "Estimated Market Value Based on AWS-1 Bids" entries were calculated in the previous table.

"Commission Guidance on D Block Reserve Price" reflects explicit Commission advice on the D Block reserve price.

Auction 66 results are available at <http://wireless.fcc.gov/auctions/66/>.

57. In light of Section 309(j)'s requirement to prescribe methods for establishing reasonable minimum opening bid amounts for licenses subject to auction unless such bid amounts are not in the public interest, the Bureau proposes to establish minimum opening bid amounts for Auction 73. The Bureau believes a minimum opening bid amount, which has been used in other auctions, is an effective bidding tool for accelerating the competitive bidding process.⁵⁵

58. Specifically, for Auction 73, the Bureau proposes to calculate minimum opening bid amounts on a license-by-license basis using a method that takes into consideration, among other factors, the winning bids for AWS-1 licenses in Auction 66. This approach for Auction 73 minimum opening bid amounts draws on the Auction 66 prices that were bid on licenses for the exact same geographic areas.⁵⁶ This approach makes it possible to establish somewhat higher minimum opening bids for licenses that may likely sell for relatively higher prices, thereby potentially reducing the number of bidding rounds necessary for licenses to reach their final auction prices. Specifically, the Bureau proposes to calculate minimum opening bid amounts as follows:⁵⁷

- For licenses covering geographic areas in the 50 states for which all of the corresponding licenses offered in Auction 66 for the exact same geographic area were sold, 25 percent of the dollars per MHz per population (MHz-pop) of the net amounts of the Auction 66 winning bids for licenses covering the same geographic license area, subject to a minimum of \$0.03/MHz-pop
- For licenses covering geographic areas for which a corresponding Auction 66 license was unsold, \$0.01/MHz-pop
- For licenses covering the Gulf of Mexico, \$1,000 per MHz
- For all remaining licenses, \$0.01/MHz-pop

For all licenses, the results of the above calculations are subject to a minimum of \$500 per license and are rounded using our standard rounding procedure.⁵⁸ The Bureau proposes to calculate the minimum opening bid for any package as the sum of the minimum opening bids for the licenses in the package. The proposed minimum opening bid amount for each license available in Auction 73 is set forth in Attachment A of this Public Notice. The Bureau seeks comment on this proposal.

59. If commenters believe that these minimum opening bid amounts will result in unsold licenses or are not reasonable amounts, they should explain why this is so, and comment on the desirability of an

⁵⁵ See, e.g., Auction of 800 MHz SMR Upper 10 MHz Band, Minimum Opening Bids or Reserve Prices, *Order*, DA 97-2147, 12 FCC Rcd 16354 (1997); "Auction of the Phase II 220 MHz Service Licenses, Auction Notice and Filing Requirements for 908 Licenses Consisting of Economic Area (EA), Economic Area Grouping (EAG), and Nationwide Licenses, Scheduled for September 15, 1998, Minimum Opening Bids and Other Procedural Issues," *Public Notice*, DA 98-1010, 13 FCC Rcd 16445 (1998).

⁵⁶ For a CMA license in Auction 73, the proposed minimum opening bid considers the net amount of the winning bid for the Auction 66 A Block license for the same CMA; for an EA license, the net amounts of the winning bids for the two Auction 66 licenses (B and C Blocks) for the same EA; and for an REAG license, the net amounts of the winning bids for the three Auction 66 licenses (D, E and F Blocks) for the same REAG. This approach does not consider Auction 66 results for other licenses that overlap or encompass a particular geographic area. That is, the Auction 66 results for EA and REAG licenses are not considered for the minimum opening bid amounts for Auction 73 CMA licenses the Auction 66 results for CMA and REAG licenses are not considered for Auction 73 EA licenses and the Auction 66 results for CMA and EA licenses are not considered for Auction 73 REAG licenses.

⁵⁷ All population figures are from the 2000 U.S. Census, U.S. Department of Commerce, Bureau of the Census. See Census 2000 Summary File 1 (SF1) and July 3, 2001, news releases covering the U.S. Virgin Islands, Guam, the Northern Mariana Islands, and American Samoa.

⁵⁸ Results above \$10,000 are rounded to the nearest \$1,000; results below \$10,000 but above \$1,000 are rounded to the nearest \$100; and results below \$1,000 are rounded to the nearest \$10.

alternative approach. Commenters are advised to support their claims with valuation analyses and suggested amounts or formulas. In establishing minimum opening bid amounts, the Bureau particularly seeks comment on such factors as the amount of spectrum being auctioned, the availability of technology to provide service, the size of the service areas, issues of interference with other spectrum bands and any other relevant factors that could reasonably have an impact on valuation of the licenses being auctioned. The Bureau also seeks comment on whether, consistent with Section 309(j), the public interest would be served by having no minimum opening bid amounts or higher minimum opening bid amounts. Furthermore, commenters may wish to comment on whether, given the proposed block-specific aggregate reserve prices, it would be desirable to have different minimum opening bid formulas for different blocks. For example, higher minimum opening bids could reduce the number of rounds it takes for block-specific aggregate reserve prices to be met. Commenters may also wish to address the general role of minimum opening bids in managing the pace of the auction. Would it be preferable for auction pace to be controlled by minimum opening bids – for example, by setting higher minimum opening bids to reduce the number of rounds it takes licenses to reach their final prices – or through other means such as changes to bidding schedules or activity requirements?

5. Bid Amounts

60. The Bureau proposes that, in each round, eligible bidders be able to place a bid on a given license or package using one or more pre-defined bid amounts.⁵⁹ Under this proposal, the FCC Auction System interface will list the acceptable bid amounts for each license or package.

61. *Minimum Acceptable Bids.* The first of the acceptable bid amounts is called the minimum acceptable bid amount. The minimum acceptable bid amount for a license will be equal to its minimum opening bid amount until there is a provisionally winning bid on the license or on a package that includes the license. The minimum acceptable bid amount for a package will be the sum of the minimum acceptable bid amounts for the licenses in the package. Minimum acceptable bids are calculated based on current price estimates and an activity-based formula.

62. *Current Price Estimates.* After there is a provisionally winning bid covering a license, the FCC Auction System will determine a “current price estimate” (“CPE”) for each license in each round as a basis for calculating minimum acceptable bids.⁶⁰ For non-C Block licenses the CPE is the provisionally winning bid amount, so that minimum acceptable bids are based on provisionally winning bid amounts, as in a standard SMR auction without package bidding. For licenses in the C Block subject to HPB, if a bid on an individual license is provisionally winning, the CPE for that license is the provisionally winning bid amount. If a package bid is provisionally winning, CPEs for individual licenses in the package are constructed by scaling up the bids on individual licenses so that the sum of the license CPEs equals the provisionally winning package bid.⁶¹ Bids are scaled up by adding “shares” to the highest bid received so far in the auction for each license in the package.⁶² These shares are proportional to the bidding units associated with each license relative to the total number of bidding units in the package. If, contrary to our proposal here, there are multiple levels of packages, license bids may need to have additional shares added in order to scale up to the package bids at higher levels of aggregation. The mechanism for determining CPEs in an SMR-HPB auction format is described in more detail in Attachment C.

⁵⁹ Bidders must have sufficient eligibility to place a bid on the particular license and/or package. See Section IV.C.1. “Upfront Payments and Bidding Eligibility,” above.

⁶⁰ For the licenses subject to package bidding in SMR-HPB, there may not be individual provisionally winning bids for some licenses, if the provisionally winning bid covering the licenses is a package bid. Therefore, CPEs serve as a proxy for individual license provisionally winning bid amounts. The procedure for computing CPEs is described briefly above in Section IV.A.2.b. and in greater detail in Attachment C.

⁶¹ Goeree, J. K. and C. A. Holt, “A Simple Combinatorial Auction,” Working Paper, May, 2007.

⁶² If no bids have been placed on an individual license, the share will be added to the minimum opening bid amount.

63. *Activity-Based Formula.* Once CPEs are calculated, minimum acceptable bids are then determined for each license as the amount of the CPE plus a percentage of the CPE. The percentage is calculated using the activity-based formula described below. In general, the percentage will be higher when many bidders are bidding on a license, or on a package containing a license, than when few bidders are bidding on a license.

64. The percentage of the provisionally winning bid used to establish the minimum acceptable bid amount is calculated based on an activity index at the end of each round. The activity index is a weighted average of (a) the number of distinct bidders placing a bid on the license, including package bids, in that round, and (b) the activity index from the prior round. Specifically, the activity index is equal to a weighting factor times the number of bidders placing a bid covering the license in the most recent bidding round plus one minus the weighting factor times the activity index from the prior round.⁶³ The additional percentage is determined as one plus the activity index times a minimum percentage amount, with the result not to exceed a given maximum. The additional percentage is then multiplied by the CPE amount to obtain the minimum acceptable bid for the next round.⁶⁴ The Bureau proposes initially to set the weighting factor at 0.5, the minimum percentage at 0.1 (10%), and the maximum percentage at 0.2 (20%). Hence, at these initial settings, the minimum acceptable bid for a license will be between ten percent and twenty percent higher than the CPE (which, for non-C Block licenses not subject to HPB, will equal the provisionally winning bid), depending upon the bidding activity covering the license. Equations and examples are shown in Attachment B.

65. *Additional Bid Amounts.* Any additional bid amounts are calculated using the minimum acceptable bid amount and a bid increment percentage – more specifically, by multiplying the minimum acceptable bid by one plus successively higher multiples of the bid increment percentage. If, for example, the bid increment percentage is ten percent, the calculation of the first additional acceptable bid amount is (minimum acceptable bid amount) * (1 + 0.1), or (minimum acceptable bid amount) * 1.1; the second additional acceptable bid amount equals the minimum acceptable bid amount times one plus two times the bid increment percentage, or (minimum acceptable bid amount) * 1.2, etc. The Bureau will round the results of these calculations and the minimum acceptable bid calculations using the Bureau's standard rounding procedures.⁶⁵ The Bureau proposes initially to set the bid increment percentage at 0.1.

66. In the case of a license for which the provisionally winning bid has been withdrawn, the minimum acceptable bid amount will equal the second highest bid received for the license.⁶⁶

67. For Auction 73, for non-C Block licenses, the Bureau proposes to begin the auction with one acceptable bid amount per license (the minimum acceptable bid amount). For C Block licenses subject to HPB, the Bureau proposes to begin the auction with three acceptable bid amounts per license (the minimum acceptable bid amount and two additional bid amounts) and one acceptable bid amount per package (the minimum acceptable bid amount and no additional bid amounts).⁶⁷ While the Commission typically has provided for up to a total of nine acceptable bid amounts, we depart from past procedure because our experience indicates that other methods for controlling the pace of the auction (for example,

⁶³ For Round 1 calculations, because there is no prior round (i.e., no round 0), the activity index from the prior round is set at 0.

⁶⁴ The Bureau will round the result using our standard rounding procedures: results above \$10,000 are rounded to the nearest \$1,000; results below \$10,000 but above \$1,000 are rounded to the nearest \$100; and results below \$1,000 are rounded to the nearest \$10.

⁶⁵ *Id.*

⁶⁶ See Section IV.C.8. "Bid Withdrawal and Dropped Bids," below.

⁶⁷ Additional acceptable bidding amounts are proposed for licenses subject to package bidding to ensure that bidders on individual licenses or on smaller packages can compete with larger package bids, even when there may not be active competition on all the separate components of the large package.

changing the minimum and maximum percentages in the activity-based minimum acceptable bid formula described above, or increasing the number of bidding rounds per day) are more effective in that regard.

68. The Bureau retains the discretion to change the minimum acceptable bid amounts, the additional bid amounts, the number of acceptable bid amounts, and the parameters of the formulas used to calculate minimum acceptable bid amounts and additional bid amounts if it determines that circumstances so dictate. Further, the Bureau retains the discretion to do so on a license-by-license and package-by-package basis. The Bureau also retains the discretion to limit: (a) the amount by which a minimum acceptable bid for a license may increase compared with the corresponding provisionally winning bid, and (b) the amount by which an additional bid amount may increase compared with the immediately preceding acceptable bid amount. For example, the Bureau could set a \$10 million limit on increases in minimum acceptable bid amounts over provisionally winning bids. Thus, if the activity-based formula calculates a minimum acceptable bid amount that is \$20 million higher than the provisionally winning bid on a license, the minimum acceptable bid amount would instead be capped at \$10 million above the provisionally winning bid. We seek comment on the circumstances under which the Bureau should employ such a limit, factors we should consider when determining the dollar amount of the limit, and the tradeoffs in setting such a limit or changing parameters of the activity-based formula, such as changing the minimum percentage. If the Bureau exercises this discretion, it will alert bidders by announcement in the FCC Auction System.

69. The Bureau seeks comment on the above proposals. If commenters disagree with the Bureau's proposal to begin the auction with one acceptable bid amount per most licenses and per package, they should suggest an alternative number of acceptable bid amounts to use at the beginning of the auction, an alternative number to use later in the auction, and whether the same number of bid amounts should be used for both licenses and packages. Commenters may wish to address the role of the minimum acceptable bids and the number of acceptable bid amounts in managing the pace of the auction and the tradeoffs in managing auction pace by bidding schedule changes, by changing the activity requirements or bid amount parameters, or by using other means. Given the proposed block-specific aggregate reserve prices, commenters may wish to address the desirability of setting bid amount parameters such that the reserve prices may be met more quickly, or whether it would be preferable to constrain bid amounts such that prices rise more slowly.

6. Provisionally Winning Bids

70. After each round of bidding, the FCC Auction System determines which combination of bids together provides the greatest aggregate gross amount and is therefore provisionally winning. If the auction were to close at the end of that round, the provisionally winning bids would become final winning bids, provided that applicable reserve prices had been met. For the 1,087 licenses not subject to package bidding, the FCC Auction System determines a provisionally winning bid for each license based on the highest bid amount received for the license, taking into account the bids placed in the round and the provisionally winning bids from the previous round.⁶⁸ For licenses in the C Block subject to HPB, the FCC Auction System will determine which combination of individual and package bids yields the highest aggregate gross bid amount, taking into consideration each bidder's highest bid on each license or package submitted up to that point in the auction.⁶⁹ These bids become the provisionally winning bids for the round.

71. In order to determine which combination of bids on licenses and/or packages yields the highest aggregate bid amount in a HPB auction, the FCC Auction System compares aggregate bid

⁶⁸ Bidders may have limited ability to withdraw provisionally winning bids on non-C Block licenses. See Section IV.C.8. Bid Withdrawal and Dropped Bids, below.

⁶⁹ For C Block licenses and packages, bidders may be able to drop non-provisionally winning bids from consideration, in some circumstances and with certain restrictions on subsequent bidding. See Section IV.C.8. Bid Withdrawal and Dropped Bids, below.

amounts across the various levels in a recursive process. It first compares, for each package in the second level, the sum of the highest individual license bids from the first level with the highest bids on packages in the second level containing those licenses. If we decide to include more than two levels, for each package in any subsequent level, the FCC Auction System would compare the highest bid on the package with the highest combination of bids from previous levels corresponding to licenses in that package. Those bids that generate the maximum total bid amounts become provisionally winning. Attachment C provides additional detail on this procedure.

72. For licenses subject to package bidding in SMR-HPB, the FCC Auction System considers each bidder's highest bid on each license or package when determining the provisionally winning bids.⁷⁰ Consequently, for licenses in the C Block, an individual license or package bid that does not become a provisionally winning bid at the conclusion of the round in which it was placed may become a provisionally winning bid at the conclusion of a subsequent round. This may occur even if the bidder does not have the bidding eligibility to cover the newly-provisionally winning bid.⁷¹ This contrasts with the SMR procedure used for licenses not subject to package bidding, in which only provisionally winning bids from the previous round and bids placed during the round are considered when determining provisionally winning bids.

73. Below we propose procedures to permit bidders on C Block licenses or packages to drop from consideration a limited number of non-provisionally winning bids on such licenses and/or packages.⁷² However, provisionally winning bids for licenses subject to package bidding cannot be withdrawn, as discussed below.⁷³

74. If more than one set of bids generates the same highest aggregate gross bid amount (i.e., the sets of bids are tied), the FCC Auction System will break ties randomly. Specifically, the FCC Auction System will assign a random number to each license in each bid upon submission. In the event of ties among bids that generate the highest aggregate gross bid amount, the set of bids with the highest sum of random numbers becomes provisionally winning. Bidders, regardless of whether they hold a provisionally winning bid, can submit higher bids in subsequent rounds. However, if the auction were to end with no other bids being placed, the winning bidders would be those that placed the provisionally winning bids.

75. The set of provisionally winning bids is determined after every round in which new bids are submitted or provisionally winning bids are withdrawn, if applicable. As stated above, the provisionally winning bids at the end of the auction become winning bids provided that applicable reserve prices have been met.

7. Bid Removal

76. Before the close of a bidding round, a bidder has the option of removing any bid placed in that round. By removing bids a bidder may effectively "unsubmit" any bid placed within that round. Once a round closes, a bidder may no longer remove a bid. In contrast to the bid withdrawal provisions described below, a bidder removing a bid placed in the same round is not subject to a withdrawal payment. The Bureau seeks comment on these bid removal procedures.

⁷⁰ The solver considers the highest bid placed by each bidder on a given license or package, regardless of the rounds in which the bids were placed.

⁷¹ In such cases, the bidder's bidding eligibility will not be restored or increased.

⁷² If dropped bids are permitted, their use will be limited and bidders will face constraints on subsequent bidding activity. See Section IV.C.8.

⁷³ See Section IV.C.8. Bid Withdrawal and Dropped Bids, below.

8. Bid Withdrawal and Dropped Bids

77. *Bid Withdrawals.* The Commission has previously found that, in certain circumstances, allowing bid withdrawals facilitates efficient aggregation of licenses and the pursuit of backup strategies as information becomes available during the course of an auction.⁷⁴ The Commission noted, however, that in some instances bidders may seek to withdraw bids for improper reasons and should, therefore, be subject to bid withdrawal payment provisions.⁷⁵ Moreover, the Commission gave the Bureau discretion in managing the auction to limit the number of withdrawals to prevent any bidding abuses. The Commission stated that the Bureau should exercise its discretion, consider limiting the number of rounds in which bidders may withdraw bids, and prevent bidders from bidding on a particular market if the Bureau finds that a bidder is abusing the Commission's bid withdrawal procedures.⁷⁶

78. Applying this reasoning to Auction 73, the Bureau proposes to allow a limited number of bid withdrawals under certain circumstances. Specifically, bidders will be allowed to withdraw their provisionally winning bids on licenses not subject to package bidding (i.e., all licenses except C Block), but in no more than two rounds of the auction. The two rounds in which a bidder may withdraw provisionally winning bids will be at the bidder's discretion. Otherwise, withdrawals must be in accordance with the Commission's rules.⁷⁷ Under this proposal, there is no limit on the number of provisionally winning bids that a bidder may withdraw in either of the rounds in which it withdraws bids. After a provisionally winning bid for a license is withdrawn, the minimum acceptable bid for the license will be set to the next highest bid on the license, and the license will revert to the FCC (i.e., there will not be a provisionally winning bidder on the license).

79. With respect to licenses subject to package bidding (i.e., the C Block) bidders have the option of placing bids on certain predetermined packages of licenses, thereby reducing their risk of winning some, but not all, of the licenses in those packages. While the predetermined packages may not coincide with the "all or nothing" aggregation needs of all bidders, the hierarchical packages should significantly reduce the overall "exposure risk" in the auction that bidders will win only some of the licenses in a desired set. Therefore, to the extent that package bids allow bidders to avoid such risk, withdrawals are less useful to bidders.

80. At the same time, withdrawals by one bidder on licenses subject to package bidding can be more disruptive to the bidding strategies of others than withdrawals on licenses not subject to package bidding. Whether a bid on a license not subject to package bidding becomes provisionally winning depends only upon whether it is the highest bid submitted for the license and, in the case of ties, on its random number assignment. In contrast, whether a bid becomes provisionally winning on a license subject to package bidding depends in part upon the particular configuration of bids submitted by other bidders that cover the same license. Consequently, a withdrawn bid on a license subject to package bidding has the potential to alter the composition of the provisionally winning bids, and may adversely affect other bidders.

81. Therefore, because the potential benefits to bidders from being able to withdraw bids are likely to be lower, and because the potential harms to other bidders from withdrawn bids are potentially much greater, we propose to permit withdrawals only on licenses not subject to package bidding.

⁷⁴ *Part 1 Third Report and Order*, 13 FCC Rcd at 459-60 ¶ 150. Additionally, the "exposure risk" that is addressed by withdrawals and package bidding involves not only the risk that a bidder will win some, but not all, of a desired set of licenses, but also the risk that the bidder will have to pay more for the subset than those licenses alone are worth to the bidder.

⁷⁵ 47 C.F.R. §§ 1.2104(g) and 1.2109.

⁷⁶ *Part 1 Third Report and Order*, 13 FCC Rcd at 459-60 ¶ 150.

⁷⁷ *See* 47 C.F.R. §§ 1.2104(g) and 1.2109.